CE FRAMEWORK

Based on Steering Committee Handout · February 4, 2006

OVERVIEW

This document contains proposed changes to the County's Circulation Element (CE) road standards that will be implemented in the following ways:

- **Public Road Standards**: The Public Roads Standards will be modified to incorporate the proposed system of road standards described in this handout, which will provide more options and flexibility for the design of roads in Village, Semi-Rural and Rural Lands.

- **Road Planning Design Manual**: A Road Planning Design Manual will be prepared during the GP2020 process that outlines road design features for specific areas. This manual will also identify when design exceptions may be considered for Village, Semi-Rural and Rural Lands and it will supplement and be consistent with the Public Road Standards.

- **GP2020 Circulation Element**: DPLU and DPW staff is working with communities to map CE roads in appropriate locations as part of the road network planning process. Some road design issues will also be addressed through policies in the Circulation Element.

The first section of this handout provides an overview of the road design issues that will be addressed in one these three documents. The second section provides a summary chart and detailed information on each proposed CE road classification. A third section contains appendices and a glossary.

Basis for Proposed Changes

Proposed changes to CE Road Standards, and preliminary proposals for a future Road Planning Design Manual, are based on Board-endorsed policies for GP2020, the GP2020 land use framework, and road design issues identified by the Steering Committee or County staff.

A. Board Endorsed Policies

Of five circulation policies recommended by the GP2020 Steering Committee, and endorsed by the Board of Supervisors in January 2001, three are pertinent to the Public Roads Standards:

- *Establish road standards for different community types, (urban, suburban, and rural)*
- *Establish design guidelines for safe multi-use roads*

- *Provide safe and attractive accommodation for all users of the roadway—including transit riders, bicyclists, and pedestrians.*

This handout includes proposed changes to the Public Road Standards, as well as preliminary proposals for a Road Planning Design Manual, that will begin to implement these draft Board policies.

B. GP2020 Land Use Framework

Circulation and land use are two related components of every community that help establish its character and function. Just as land use decisions take into account the road network accessing the site and its traffic volumes, road design should include elements and features that accommodate community needs and that reflect the character of the area which the road traverses. The term used by urban designers to express this relationship is "place-based" roads. For example, a four-lane road in an urbanized commercial center would differ from a four-lane road in a sparsely developed residential neighborhood.

Proposed revisions to the County's CE roads provide a variety of road classifications that support land use concepts developed for GP2020. GP2020 land use concepts, summarized in the community development model above, include three broad land use classifications. This handout includes recommendations on where different road classifications should be located, as well as preliminary information on how roads can be adapted for Villages, Semi-Rural and Rural Lands.

C. Road Design Issues

1. Appendix A identifies a set of road design issues that are being considered in the creation of additional CE Road Standards and the Road Planning Design Manual. In many cases, these issues were a starting point for producing solutions that adapt roads to different locations. Here are two examples:
2. Design Speed: Design speeds affect both horizontal and vertical curves of the road. If a road with a high design speed is located in an area with rolling hills or steep terrain, then requirements for a "flatter, straighter" road may result in significant grading that impacts the visual character of the area.
3. Shoulders: Many community groups stated that wide, paved road shoulders are not consistent with their rural character. In most cases those communities are referring to areas defined as Semi-Rural or Rural Lands.
4. In response to these issues, new road standards are proposed with lower design speeds and a reduced shoulder. In addition, the Road Planning Design Manual will identify situations where a reduced paved shoulder can be used.
5. Public Road Standards / Road Planning Design Manual

Proper road design should accommodate both motorized and non-motorized users of the road. It should respond to both traffic volumes and the character of the place (neighborhood, village, open space, etc.) that the road traverses.

The proposed GP2020 road standards, which are summarized in section two of this handout, include existing, new and modified road classifications that provide options to address both traffic volumes and the character of the place that the road

traverses. The existing Public Road Standards do include standards for bike lanes, pathways, sidewalks and other facilities for non-motorized users. The existing standards also include a process to consider design exceptions.

The Road Planning Design Manual will identify cases where design exceptions may be considered to implement road design solutions in specific areas. The Road Planning Design Manual will also include options for accommodating traffic volumes and community or environmental design issues. Appendix B includes preliminary preferences for the Road Planning Design Manual.

Road Standards for Villages

Because Villages are typically located on land with few physical or environmental constraints, factors other than design speed may impact road design. Road design in urbanized areas should be consistent with GP2020 land use concepts that emphasize on-street or shared parking in commercial centers, pedestrian activity and amenities, transit opportunities, and shorter block lengths.

Summary Table 2 identifies locations where specific road classifications are recommended. In general, roads with high design speeds are in conflict with higher intensity uses found in a Village and their use is not recommended. The following road design elements are being considered to address traffic volume and speed issues in Village or Village Core[1] areas:

Reduced Intersection Spacing/Access: Block lengths in excess of 400 feet[2] discourage pedestrian activity and are inconsistent with the existing street pattern of established town centers such as Fallbrook, Ramona, and Lakeside. Road design in Village areas should account for reduced intersection spacing (400 feet or less). Because spacing between signalized intersections requires a minimum 600 foot distance between signals (greater on State highways), not all intersections in Villages will be signalized.

Intersection Design: Intersection design features, such as bulbouts and reduced turning radii, would reduce the length of pedestrian crossing in Main Street applications and high-density residential areas. Because intersection design can affect right-turn movements and on-street parking, however, community input should be considered during the planning process. Pedestrian enhancements and traffic calming features should also be identified for other areas to help slow vehicle turning speeds and encourage pedestrian activity.

Lane Width: Lane widths in Villages should not exceed 12' for CE roads except in cases where 13' is recommended for an adjacent bike lane. Narrow lane widths, when used in

1 In some communities, it may be simpler to utilize these exemptions for all areas within the Village Limit Line.

2 Ewing, Reid: Pedestrian and Transit-Friendly Design (1999), David Evans and Associates: Main Street Handbook (2001), N. Carolina Dept. of Transportation: Traditional Neighborhood Development (ND) Guidelines (2000).

conjunction with other traffic calming measures, may result in slower traffic speeds. An 11' lane width may be considered in areas where the road is straight, has low truck volumes and on-street parking is not permitted in shoulder areas.

Also see Appendix B for a summary of road design options for Villages that will be addressed in the Road Planning Design Manual.

Implementation Issues

In order to implement changes to the CE roads, the County will need to revise its CE road classifications based on the proposed standards in section two of this handout. DPLU and DPW should establish a process for using the Road Planning Design Manual, and should evaluate the design exception process to ensure that design options in the manual can be considered and implemented when appropriate by developers and by the communities.

The GP2020 mapping process should incorporate road-related concepts for Villages, Semi-Rural and Rural Lands identified in this handout. Policies will also be developed that address potential improvements to existing roads and the construction of new road facilities.

A Road Planning Design Manual will be developed that includes a toolbox of amenities to facilitate non-motorized travel in specific areas. The design manual will include landscape and other treatment options for medians and parkways that enhance community character and that minimize environmental impacts in Semi-Rural and Rural Lands. The manual will identify when design exceptions may be appropriate for Village, Semi-Rural and Rural Lands. It could include sections that define road design options unique for different communities. See Appendix B for a summary of preliminary preferences for each road standard.

Several master plans and maps identify planned bicycle, trail or pedestrian networks. These include the County's Bicycle Element, Bicycle Master Plan and County Trails Master Plan. In order to identify required right-of-way and non-vehicular design components for public roads, the County should develop a master plan that combines all components. A combined plan was requested by several communities to facilitate their planning and review process.

PROPOSED STANDARDS

Summary Table 1

The proposed CE Road Standards in Summary Table 1 are organized into a hierarchy of roads ranging from six to two lanes. They include existing, modified, and new CE road classifications. Proposed CE road standards are organized by the number of travel lanes and by design speed, which are important factors when determining road capacity and road design. Variations on road types were developed by adding options such as medians or dedicated turn lanes.

Summary Table 1 also includes some updated threshold capacities, which are based on Level of Service (LOS) D, the Board endorsed standard for GP2020. Traffic volumes that exceed the threshold capacity will generate levels of service E or F on County roads.

Summary Table 1 contains more than one design speed option for two and four-lane roads. As the design speed decreases, the parkway size increases. Wider parkways are well suited to two locations: Villages and highly constrained areas in Rural Lands. Typical parkways range from 10 feet for roads with higher design speeds (Major Road Series, Community Collector Road Series) to 14 feet for roads with the lowest design speeds (Minor Collector Series).

Summary Table 1 establishes a set of minimum standards. It should be noted that some exceptions have been noted, and are outlined on the details sheets found on pages 11 through 24 in this document. In areas that are already developed, the minimum ROW for certain road types may be reduced by using a 10' parkway. For the Community Collector and Light Collector series, one classification of road offers a choice of improvement options, which includes a wider ROW for passing lanes, and a range of threshold capacities. Improvement options will be noted in the Community Summary matrix.

Relationship to Previous Standards

Use the right hand column of the table to determine how the names for existing and new standards are related. In some cases, newly proposed GP2020 standards for Backcountry Communities are reintroduced with a new name.

Only one previous road type, the Rural Mountain Road, is not represented by a proposed road standard. However, the 2.3 Minor Collector road series would be an appropriate substitute for the Rural Mountain Road in rural, mountainous areas with low traffic volumes.

Summary Table 1: Proposed CE Road Standards

CE Road Series	Travel Lanes	Design Speed	No.	Name for Road Classification	Road Components	Threshold Capacity (ADT)	Minimum ROW (feet)	Relationship to Public Road Standards
6.1 Expressway	6 lanes	65 mph	6.1	Expressway	Median / Grade-Separated Interchange	86,000	146’	Same as existing Expressway
6.2 Prime Arterial	6 lanes	65 mph	6.2	Prime Arterial	Median / At-Grade Interchange	50,000	122’	Same as existing Prime Arterial
4.1 Major Road Series	4 lanes	55 mph	4.1A	Major Road with Raised Median	Raised Median	33,400	98’	Same as existing Major Road
			4.1B	Major Road with Intermittent Turn Lanes	Intermittent Turn Lanes	30,800	84’ to 98’	Same as existing Collector Road
4.2 Boulevard Series	4 lanes	40 mph	4.2A	Boulevard with Raised Median	Raised Median	27,000	106’	New standard
			4.2B	Boulevard with Intermittent Turn Lane	Intermittent Turn Lanes	25,000	92’ to 106’	New standard
2.1 Community Collector Series	2 lanes	45 mph	2.1A	Community Collector with Raised Median	Raised Median	15,000	74’	Similar to existing Town Collector (except higher design speed)
			2.1B	Community Collector with Continuous Turn Lane	Continuous Turn Lane	13,500	74’	
			2.1C	Community Collector with Intermittent Turn Lane	Intermittent Turn Lanes	13,500	60’ to 74’	New standard
			2.1D	Community Collector with Improvement Options	Raised Median, Continuous Turn Lane, Intermittent Turn Lane	13,500 – 15,000	84’	Similar to existing Rural Collector
			2.1E	Community Collector	None	10,900	60’	Same as existing Light Collector

CE Road Series	Travel Lanes	Design Speed	No.	Name for Road Classification	Road Components	Threshold Capacity (ADT)	Minimum ROW (feet)	Relationship to Public Road Standards
2.2 Light Collector Series	2 lanes	40 mph	2.2A	Light Collector with Raised Median	Raised Median	13,500	78’	Similar to existing Town Collector (except wider parkway, ROW)
			2.2B	Light Collector with Continuous Turn Lane	Continuous Turn Lane	13,500	78’	
			2.2C	Light Collector with Intermittent Turn Lanes	Intermittent Turn Lanes	13,500	64’ to 78’	New Standard
			2.2D	Light Collector with Improvement Options	Raised Median, Continuous Turn Lane, Intermittent Turn Lane	13,500	88’	Similar to existing Rural Collector
			2.2E	Light Collector	None	10,900	64’	Similar to existing Rural Light Collector
			2.2F	Light Collector with Reduced Shoulder	Reduced Shoulder	8,700	52’	New Standard (Similar to previous Rural Minor Road)
2.3 Minor Collector Series	2 lanes	35 mph	2.3A	Minor Collector with Raised Median	Raised Median	8,000	82’	New Standard
			2.3B	Minor Collector with Intermittent Turn Lane	Intermittent Turn Lane	8,000	68’ to 82’	New Standard
			2.3C	Minor Collector	None	7,000	68’	New Standard

SUMMARY TABLE 2: LOCATION GUIDE

Summary Table 2 indicates where to locate different CE road classifications, and ***are listed in order of preference***. Road types with lower design speeds are recommended for Villages and for Semi-Rural or Rural Lands with physical constraints. This table should be used in conjunction with other mapping criteria prepared for GP2020. In order to develop a rational network, road mapping should consider the *predominant* topography or land use patterns, and a change in road classification should occur only at road intersections or another easily identifiable location in the network.

Lanes:	**Village / Village Core3**	**Semi-Rural**	**Rural Lands**
6 Lane	*Limited use only*: 6.1 Expressway or 6.2 Prime Arterial	6.1 Expressway or 6.2 Prime Arterial	6.1 Expressway or 6.2 Prime Arterial
4 Lane	*1st Choice*: 4.2 Boulevard *Limited use only*: 4.1 Major Road	*1st Choice*: 4.1 Major Road *Limited use only*: 4.2 Boulevard	*1st Choice*: 4.1 Major Road *Limited use only*: 4.2 Boulevard
2 Lane	*1st Choice*: 2.3 Minor Collector *2nd Choice*: 2.2 Light Collector *Limited use only*: 2.1 Community Collector	*1st Choice*: 2.2 Light Collector *2nd Choice*: 2.1 Community Collector *Limited use*: 2.3 Minor Collector	*1st Choice*: 2.1 Community Collector *Areas with Physical Constraints*: 2.2 Light Collector or 2.3 Minor Collector

NON-CIRCULATION ELEMENT ROADS

At the request of Steering Committee members, preliminary information for two non-CE roads was added to this handout. The information on Fire Access Roads is subject to further review and refinement based on input from DPW, the Fire Services Section of DPLU, and the respective fire protection districts.

Local Public Road: Local Public Roads may be shown on the regional CE Map when used to resolve road capacity problems within the CE network or when used to link CE roads together into a complete network. Local Public Roads may be shown on a community plan map when they form an important part of a community-wide or town center road network. Community plan maps can also include new local public road alignments that are being proposed to improve connectivity within a community. Standards for this road type are located in the County's "Public Road Standards".

3 Please note that passing lanes are not appropriate for a Village.

Fire Access Road: Fire/Emergency Access Roads provide a secondary egress route for the public in the event of a fire emergency. These roads can be built to local public road standards or to private road standards. Proposed criteria for designating a Fire/Emergency Access Road, as well as preliminary standards for these roads, is contained in Appendix D.

During the road network planning process, a number of fire access roads were identified by the community planning groups as candidates for Fire/Emergency access routes. Their primary objective was to identify evacuation routes in the event of a fire emergency. In several cases, proposed routes were already mapped as a CE road on the Existing General Plan but were not built to CE standards. Many of these mapped roads do not meet the preliminary road standard for a Fire/Emergency Access Road, and further discussions are needed to identify funding mechanisms to bring emergency access routes up to proposed standards.

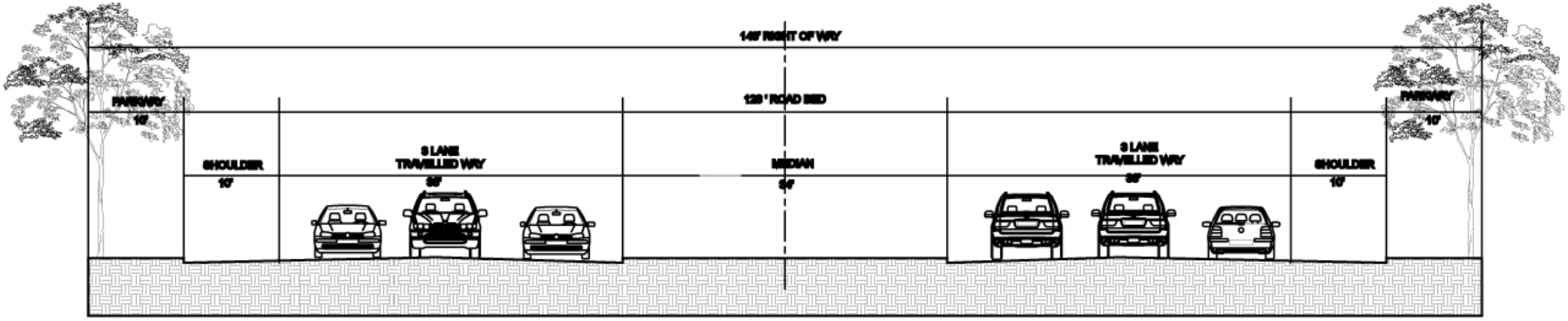
	Type of Non-CE Road	**Travel Lanes**	**Minimum Design Speed**	**Threshold Capacity (ADT)**	**Minimum ROW (feet)**
Non-Circulation Element Roads	**Local Public Road**	2	30 mph	4,500	60’
	Fire Access Road	2	30 mph[4]	Not Applicable	40’

ROAD STANDARD DESCRIPTIONS

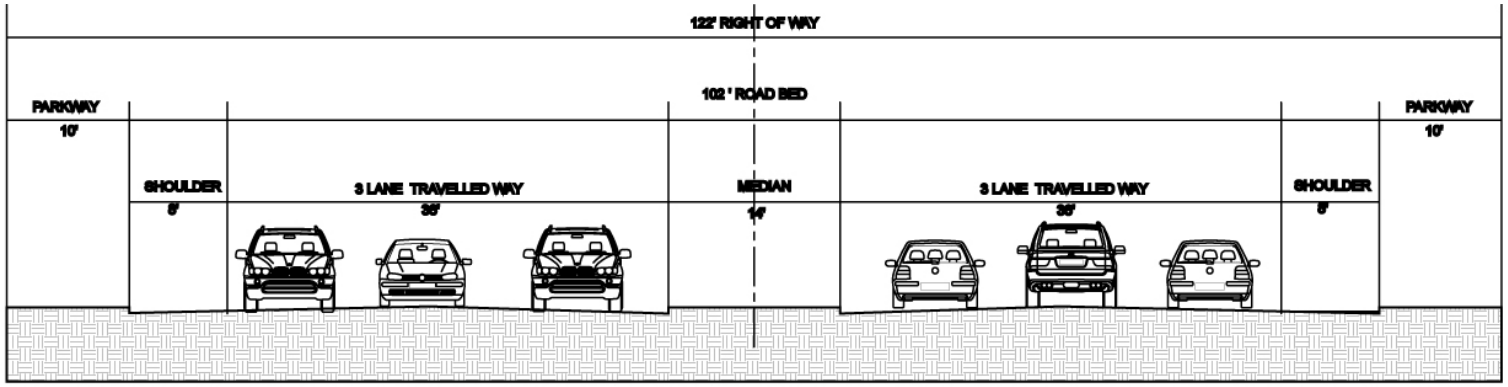
The pages that follow contain detailed descriptions for each road standard. Cross sections are included to illustrate the size and organization of all road components. See the Glossary of Terms for an explanation of terms used in the diagrams.

Please note that a wider Right-of-Way (ROW) will be required for bike lanes identified in the Bicycle Master Plan. Areas called Parkways contain landscaping, utilities, and trails or bicycle paths as required. Additional width may be required for trails (called “pathways” in the Trails Master Plan).

4 Private Road Standards were used to establish fire/emergency access roads’ design speed and ROW.



Expressway



Prime Arterial

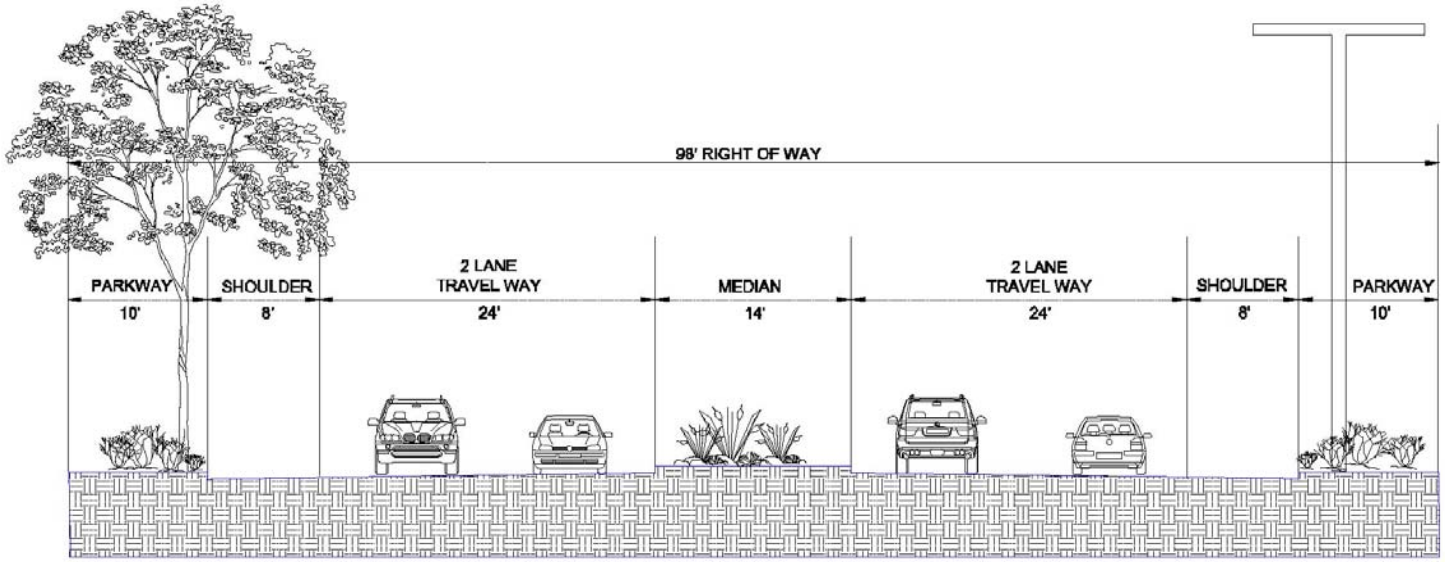
6.1 EXPRESSWAY / 6.2 PRIME ARTERIAL

There are two types of 6-lane road classifications, which are designed to accommodate high speed and high volume traffic. Typically, these roadways should be located outside Villages and in areas with limited physical constraints. The median serves as a separation between travel ways, instead of an area for turning or entering adjacent property.

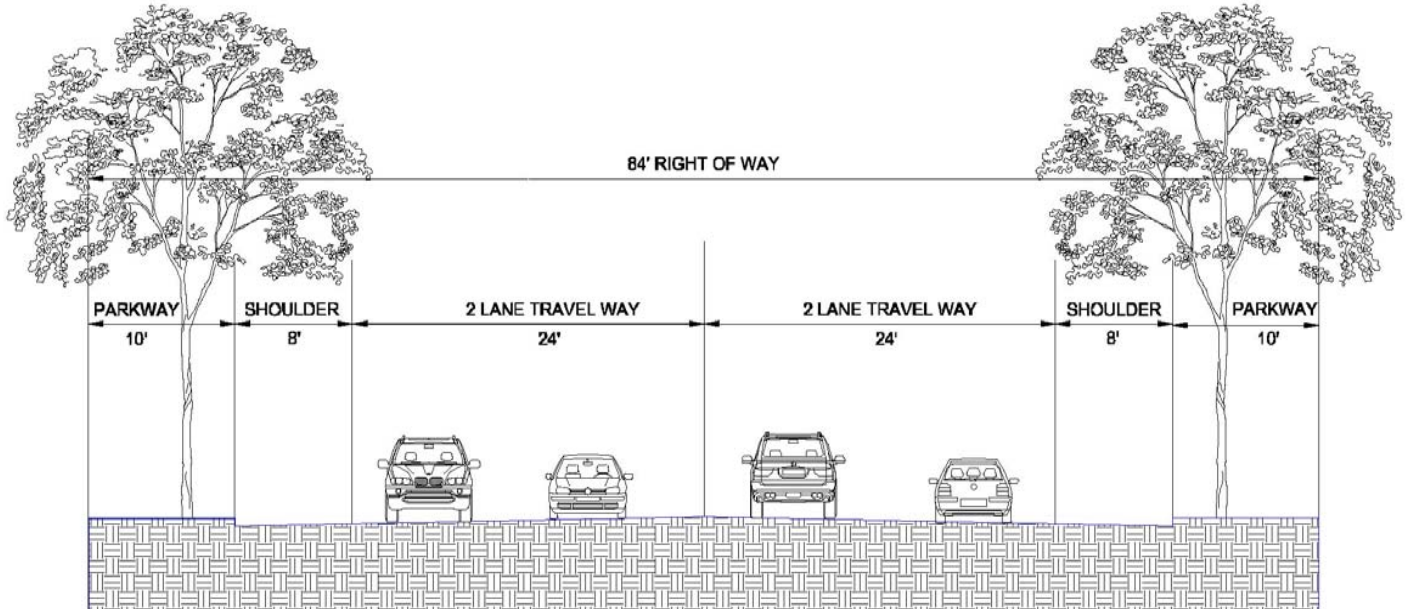
6.1 Expressway is the same as the existing Expressway standard — a divided, multi-lane roadway with a wide median and grade separated interchanges. This road type is similar to a CALTRANS Freeway facility.

6.2 Prime Arterial is the same as the existing Prime Arterial standard — a divided, multi-lane roadway with a median and at-grade interchanges.

	Minimum Standards		Description
	6.1 Expressway	**6.2 Prime Arterial**	
Design Speed	65 mph	65 mph	
Threshold Capacity	86,000 ADT	50,000 ADT	
ROW	146’	122’	
Travel Way	72’	72’	6 travel lanes, 12’ each
Medians	34’	14’	Raised, depressed or flat with optional surface treatments or landscaping
Shoulder	10’	8’	Primarily serve as vehicle recovery areas, and parking is restricted.
Parkway	10’	10’	10’ parkway includes landscaping and utilities as required.
Interchanges	Grade Separated	At-Grade	



4.1 A - Major Road with Raised Median



4.1 B – Major Road with Intermittent Turn Lanes

4.1 MAJOR ROAD SERIES

The Major Road is a four-lane roadway that primarily serves medium to high volumes of traffic. Because of its high design speed, this road should typically be located in physically unconstrained areas and its use in Villages should be limited to industrial or heavy commercial areas with low levels of pedestrian and bicycle traffic. In some circumstances, an exception can be made using a modified design speed of 45 mph.

4.1A – Major Road with Raised Median (existing Major Road standard) is appropriate for regional travel between communities where higher traffic volumes are forecast. Potential applications include state highways such as SR67.

4.1B – Major Road with Intermittent Turn Lanes is the same as the existing Collector Road standard (the current Public Road Standards provide for intermittent turn lanes for a 4-lane Collector Road). It will typically be used in areas where turning movements are infrequent or where ROW is limited.

	Minimum Standards		Description
	4.1A – Major Road with Raised Median	**4.1B – Major Road with Intermittent Turn Lanes**	
Design Speed	55 mph	55 mph	45 mph design speed used with exceptions as noted above.
Threshold Capacity	33,400 ADT	30,800 ADT	
ROW	98’	84’ to 98’	ROW increases to 98’ for intermittent turn lanes.
Travel Way	48’	48’	4 travel lanes, 12’ each
Medians	14’	None	Median is raised, depressed or flat with optional surface treatments or landscaping
Shoulder	8’	8’	Parking restriction should be considered due to high speed travel.
Parkway	10’	10’	Typically contains landscaping and utilities. Additional width may be required for trails (pathways).

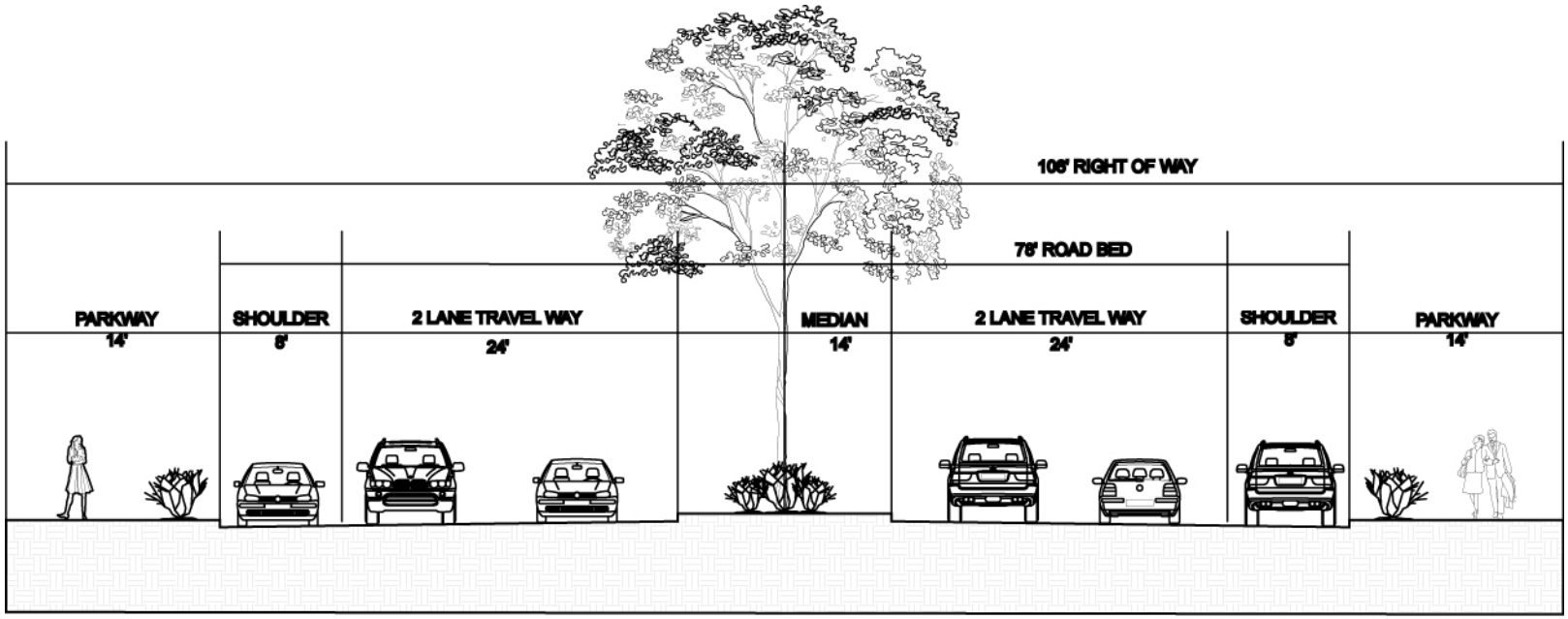
4.2 BOULEVARD SERIES

The Boulevard Series is a four-lane roadway with a low design speed and a wider parkway that should be used in Villages where higher traffic volumes are combined with on-street parking, pedestrian, bicycle and transit activities. The Boulevard Series can also be used in rural areas that are constrained by slopes or where the community requests a context sensitive solution.

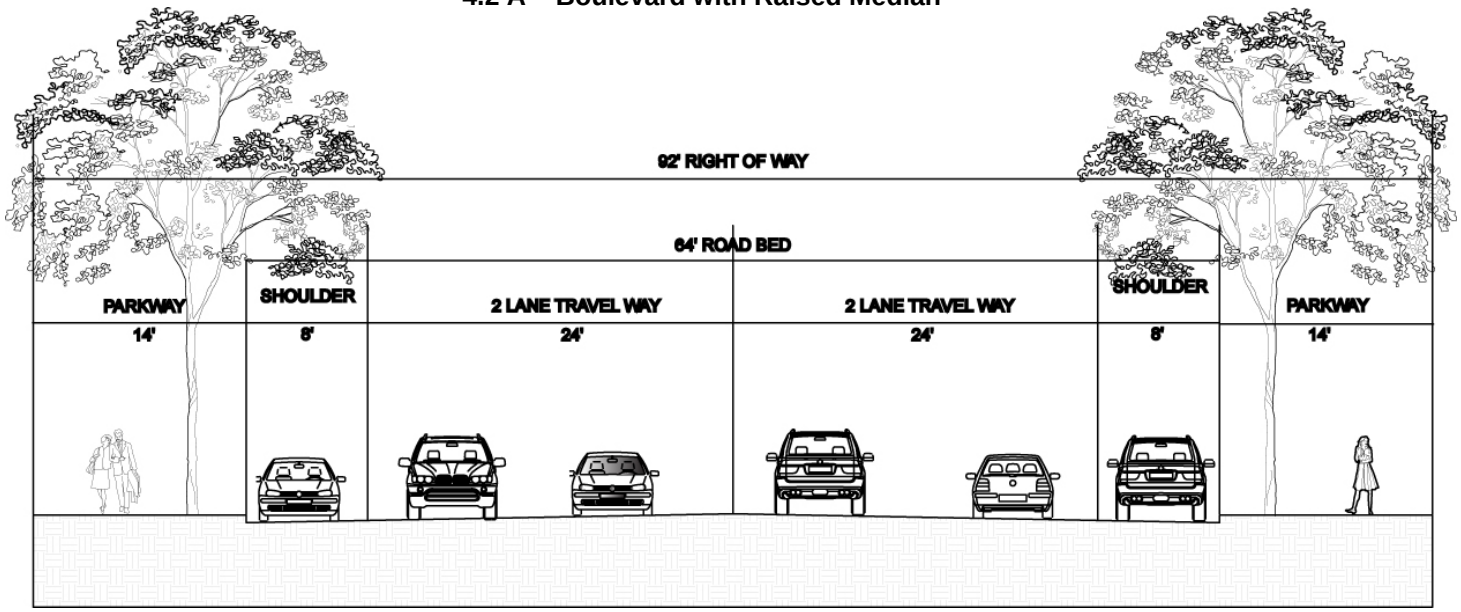
4.2A - Boulevard with Raised Median has a wide parkway that accommodates non-motorized circulation. The median controls access, provides dedicated turn lanes, and increases road capacity. Potential applications include four-lane roadways that traverse villages in Ramona and Valley Center.

4.2B - Boulevard with Intermittent Turn Lane has a wide parkway that accommodates non-motorized circulation. This road would typically be used where turning movements are infrequent or where ROW is limited.

	Description		
	4.2A – Boulevard with Raised Median	**4.2B – Boulevard with Intermittent Turn Lane**	
Design Speed	40 mph	40 mph	
Threshold Capacity	27,000 ADT	25,000 ADT	Capacity is higher for raised median.
ROW	106’	92’ to 106’	ROW will increase where bike lanes are required. ROW for Boulevard 4.2B increases to 106’ at intersections for dedicated turn lanes.
Travel Way	48’	48’	4 travel lanes, 12’ each
Medians	14’	None	14’ median is typically raised or depressed with surface treatments or landscaping.
Shoulder	8’	8’	Add additional width for bicycle lanes, as required.
Parkway	14’	14’	Typically contains landscaping, utilities, walkways and/or bicycle paths.



4.2 A – Boulevard with Raised Median



4.2 B – Boulevard with Intermittent Turn Lane

(ROW increases to 106' to accommodate dedicated turn lanes at intersections)

TWO LANE ROADS

2.1 Community Collector Series

2.2 Light Collector Series

2.3 Minor Collector Series

See pages E-17 through E-22 for cross sections.

2.1 COMMUNITY COLLECTOR SERIES

The Community Collector Series is a two-lane roadway that primarily serves motorized traffic. Because of the higher design speed, it is appropriate for areas with few physical constraints and areas with little pedestrian, bicycle or other non-motorized traffic. This road type could be used for State Highways where physical constraints are limited.

2.1A - Community Collector with Raised Median provides more capacity, controls turn movements and improves flow.

2.1B – Community Collector with Continuous Turn Lane improves traffic flow in areas with multiple curb cuts.

2.1C - Community Collector with Intermittent Turn Lane provides more capacity and improves traffic flow.

2.1D - Community Collector with Improvement Options has a wider right-of-way for added flexibility to accommodate improvement options such as turn lanes, medians or passing lanes. Road improvements will be indicated in staff recommendations. Passing lanes are not appropriate for Villages. When a Raised Median option is chosen, the threshold capacity will increase to 15,000.

2.1E - Community Collector has no improvement options. It accommodates low to medium traffic volumes in areas where non-motorized traffic and physical constraints are limited

	Community Collector Series: Minimum Standards					Description
	2.1A Raised Median	2.1B Continuous Turn Lane	2.1C Intermittent Turn Lane	2.1D Improvement Options	2.1E (No features)	
Design Speed	45 mph	45 mph	45 mph	45 mph	45 mph	
Threshold Capacity (ADT)	15,000	13,500	13,500	13,500-15,000	10,900	Raised Median option for 2.1D offers 15,000 threshold capacity.
ROW	74’	74’	60’ to 74’	84’	60’	Wider ROW required for 2.1C for turn lanes at intersections.
Travel Way	24’	24’	24’	24’	24’	2 travel lanes, 12’ each (plus optional passing lane for 2.1D)
Medians	14’	14’	None	None	None	Design Manual will address treatments.
Shoulder	8’	8’	8’	8’	8’	Add additional width for bicycle lanes.
Parkway	10’	10’	10’	22’	10’	2.1D is wider for passing lane option.

2.2 LIGHT COLLECTOR SERIES

Light Collectors are 2-lane roads with a lower design speed and wider parkway than the Community Collector standard. They can be used in rural areas with medium physical constraints or in urbanized areas with moderate levels of non-motorized circulation.

2.2A - Light Collector with Raised Median has a median that provides more capacity, controls turn movements and improves traffic flow.

2.2B - Light Collector with Continuous Turn Lane improves traffic flow in areas with multiple curb cuts.

2.2C – Light Collector with Intermittent Turn Lanes has intermittent, dedicated turn lanes that provide more capacity and improve traffic flow.

2.2D - Light Collector with Improvement Options has a wider right-of-way for added flexibility to accommodate improvement options such as turn lanes, medians or passing lanes. It can be used for roads within the State Highway system that traverse through physically constrained land, but passing lanes would not be appropriate in Villages. Road improvements will be indicated in staff recommendations.

2.2E - Light Collector has no special features. It accommodates low to medium traffic volumes where non-motorized traffic and physical constraints are limited.

2.2 F - Light Collector with Reduced Shoulder has a two foot shoulder, a rolled curb with graded pathway, and a narrow right-of-way.

	Light Collector Series: Minimum Standards						
	2.2A Raised Median	**2.2B Continuous Turn Lane**	**2.2C Intermittent Turn Lanes**	**2.2D Improvement Options**	**2.2E (No Features)**	**2.2F Reduced shoulder**	**Description**
Design Speed	40 mph	40 mph	40 mph	40 mph	40 mph	40 mph	
Threshold Capacity (ADT)	13,500	13,500	13,500	13,500	10,900	8,700	
ROW	78’	78’	64’ to 78’	88’	64’	52’	Wide ROW for 2.2D accommodates turn lanes at intersections
Travel Way	24’	24’	24’	24’	24’	24’	2 travel lanes, 12’ each (plus optional passing lane for 2.2A)
Medians	14’	14’	None	None	None	None	Design Manual will address treatments.
Shoulder	8’	8’	8’	8’	8’	2’	Add 5’ for bicycle lanes, if required
Parkway	12’	12’	12’	24’	12’	12’	

2.3 MINOR COLLECTOR SERIES

The Minor Collector is a two-lane roadway with a very low design speed that is appropriate for rural areas that are highly constrained and for areas within a Village with heavy pedestrian, bicycle and transit activities. This standard could also be used in Semi-Rural areas with high levels of "side friction", or access from adjacent parcels.

Minor Collectors have a wide parkway that, in rural areas, can be used to grade slopes and improve visibility or to improve tight curves. In more urbanized areas, the wide parkway can be used for pedestrian and bicycle paths and for landscape buffers between vehicular and non-vehicular circulation.

2.3A - Minor Collector with Raised Median has a raised or depressed median with dedicated turn lanes and controlled turn movements that improve traffic flow and add rural character when the median is landscaped.

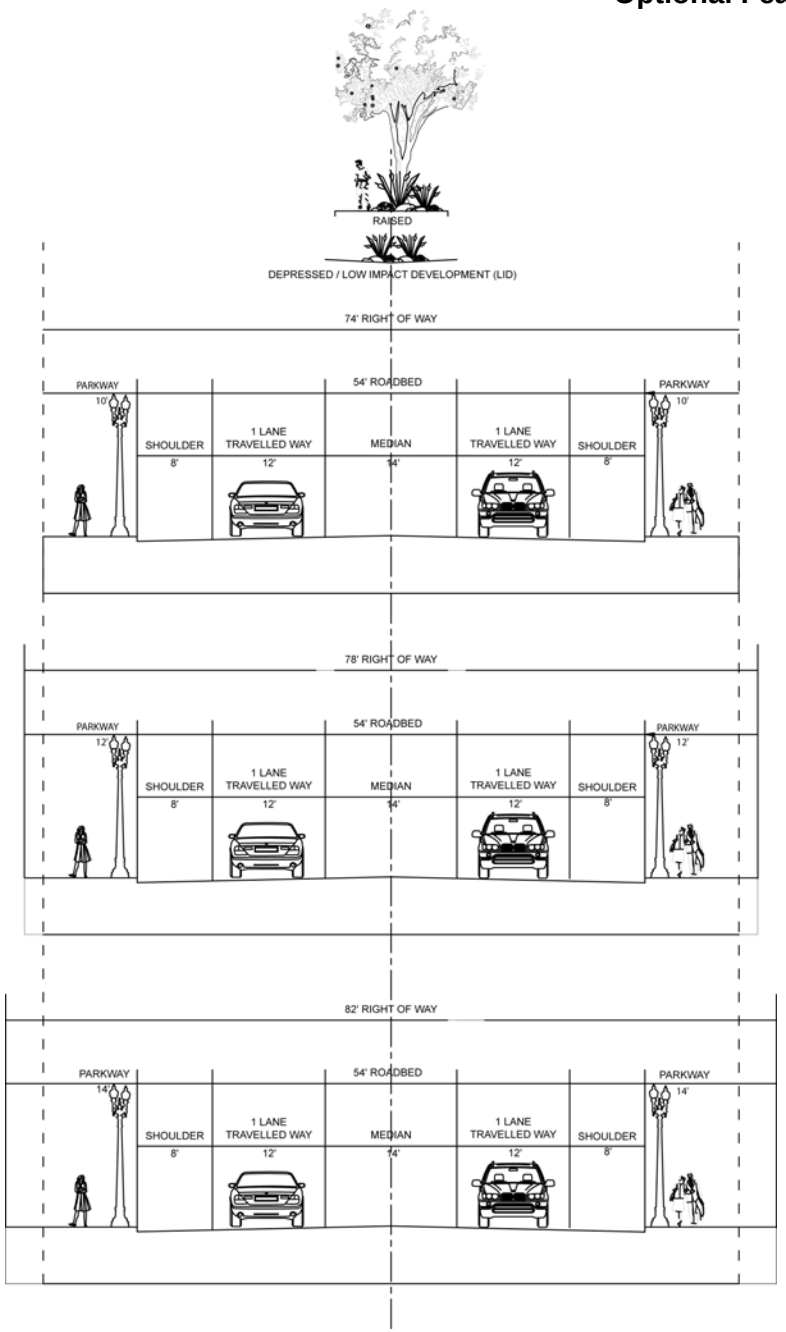
2.3B - Minor Collector with Intermittent Turn Lane improves traffic flow in areas with multiple curb cuts.

2.3C – Minor Collector has no additional features and is primarily intended for residential neighborhoods or for rural areas with steep slopes and physical constraints.

	Minor Collector Series: Minimum Standards			
	2.3A Raised Median	**2.3B Intermittent Turn Lane**	**2.3C (No Features)**	**Description**
Design Speed	35 mph	35 mph	35 mph	
Threshold Capacity (ADT)	8,000 ADT	8,000 ADT	7,000 ADT	
ROW	82'	82'	68'	Wider ROW required for bike lanes.
Travel Way	24'	24'	24'	2 travel lanes, 12' each
Medians	14'	14'	None	Median is typically raised or depressed with optional surface treatments or landscaping
Shoulder	8'	8'	8'	Add 5' for bike lanes, if required
Parkway	14'	14'	14'	Parkway includes landscaping, utilities, trails or bicycle paths, as required

TYPICAL CROSS SECTIONS

Optional Features and Parkway Widths



2.1 Community Collector
2.2 Light Collector Series
2.3 Minor Collector Series

Typical cross sections are shown on the following pages for the Light Collector series. The Community Collector and Minor Collector series are the same as those shown for the Light Collector Series *except* for the parkway width and right-of-way. Typical parkway widths are:

- 2.1 Community Collector = 10’
- 2.2 Light Collector = 12’
- 2.3 Minor Collector = 14’

Exceptions to Parkway widths are noted on the detail sheets under “Improvement Option D” for the Community Collector and Light Collector series and will accommodate additional width needed for a improvement options including a passing lane.

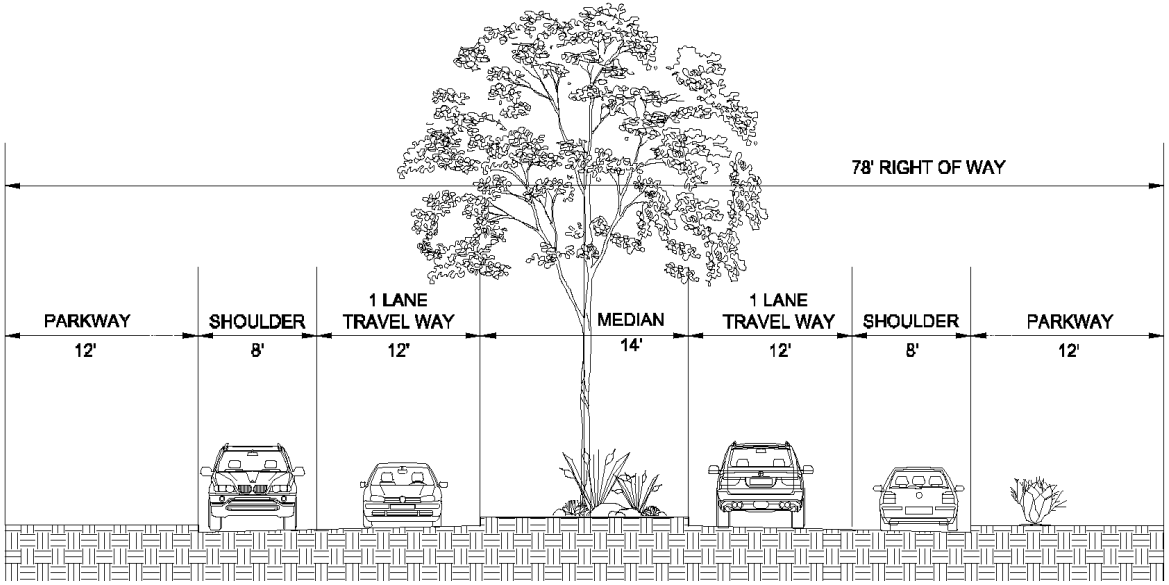
Medians can be designed as Raised, Depressed (Low Impact Design) or Continuous Turn Lanes. Continuous Turn Lanes can be designed with islands to help direct and calm traffic. An Intermittent Turn Lane will require 14’ additional ROW in the area needed to accommodate the turn pocket.

Additional design features in parkways and for medians will be outlined in a Road Design Planning Manual.

Note: The minimum ROW for a 2.2 Light Collector and 2.3 Minor Collector may be reduced if located in an area that is already developed. A reduced ROW can be achieved by using a 10’ minimum parkway. This solution should not be used where adequate ROW is available for the 12’ or 14’ parkway standard.

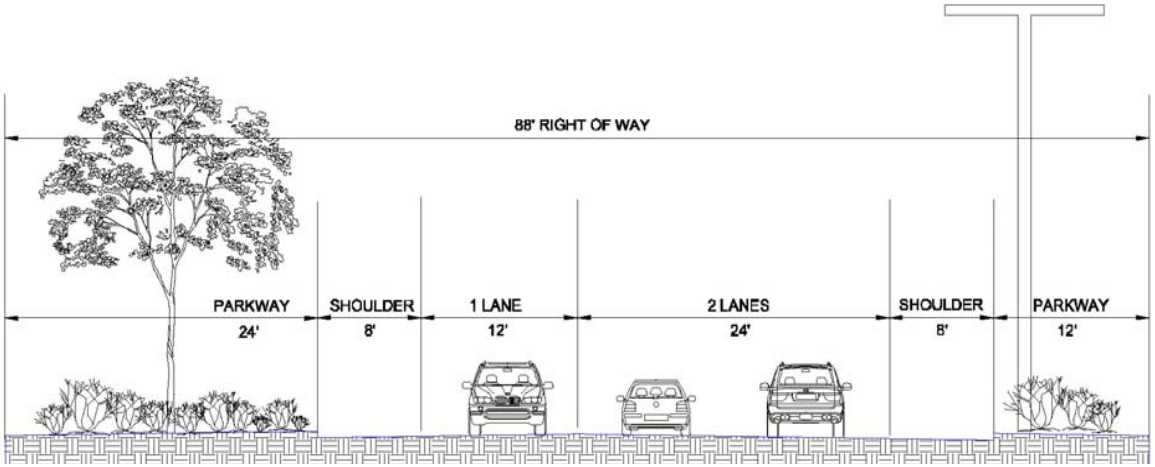
TYPICAL CROSS SECTIONS

2.2 Light Collector Series



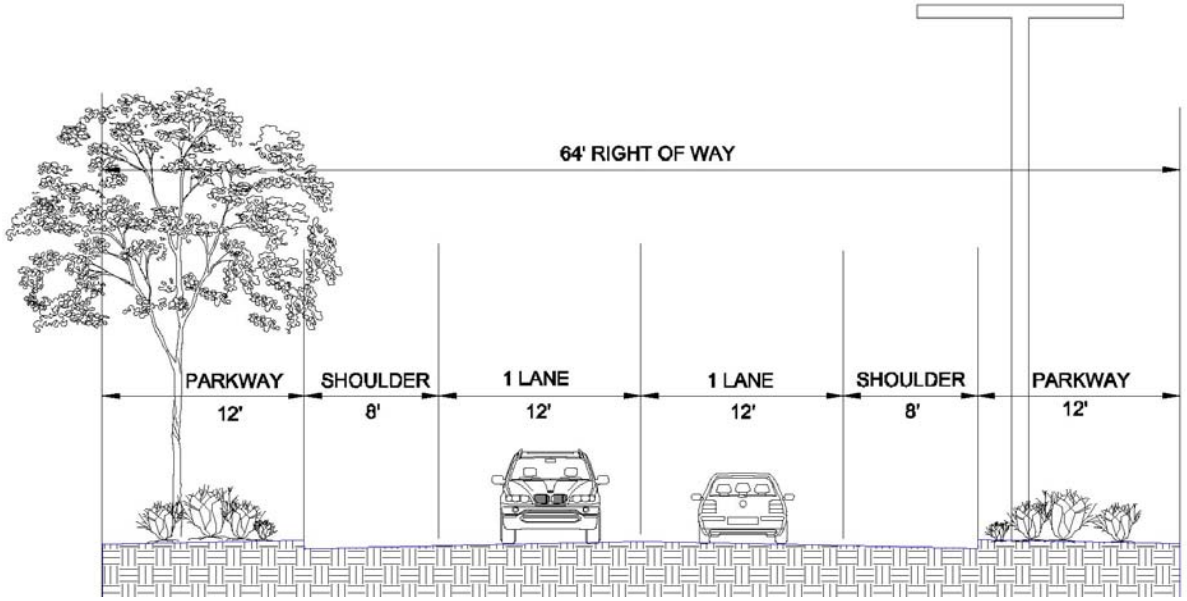
2.2A - Light Collector with Raised Median

Cross Section for 2.2B, Light Collector with Continuous Turn Lane, is similar except for median type.



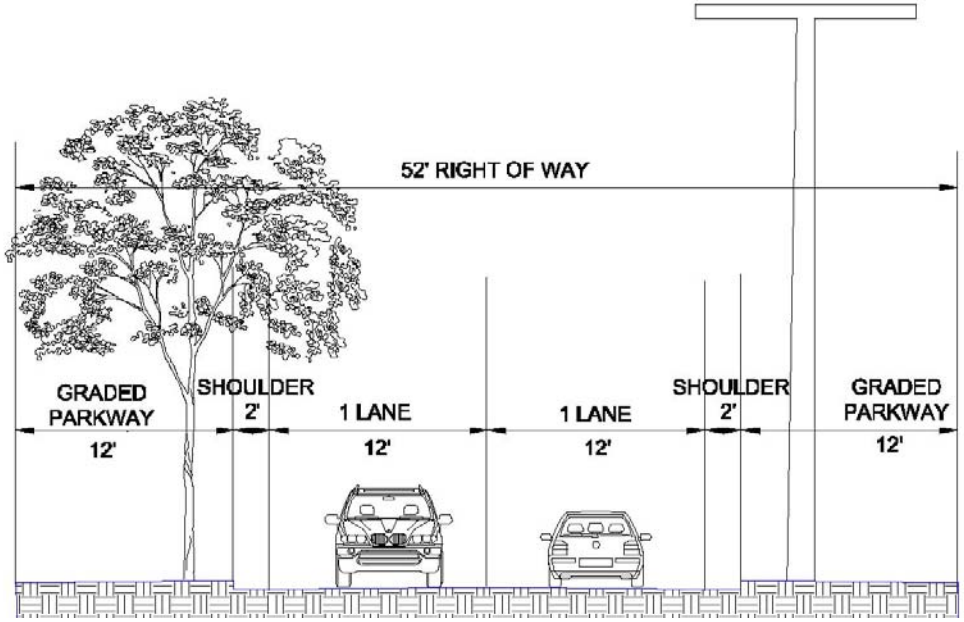
2.2D - Light Collector with Improvement Options

Shown with passing lane option in one direction.



2.2E - Light Collector

Cross section for 2.2 C is similar except at intersections, which contain a 14' dedicated turn lane that produces a wider ROW.



2.2F - Light Collector with Reduced Shoulder